Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (previously presented) A method for demodulating a signal comprising:

receiving a modulated sampled signal;

buffering a consecutive sequence of the modulated sampled signal;

comparing the consecutive sequence with all possible valid modulated sampled signals; and

determining a bit decision representing a demodulation of the consecutive sequence of the modulated sampled signal, the determination made being based on a valid modulated sampled signal located closest to the consecutive sequence of the modulated sampled signal in a constellation.

2. (original) The method according to claim 1, comprising receiving a modulated sampled signal GMSK signal.

3. (original) The method according to claim 1, further comprising quantizing the consecutive sequence of the modulated sampled signal before the buffering, thereby forming quantized sequential signals, the quantized consecutive sequence being used in the comparing.

4. (original) The method according to claim 3, comprising concatenating the quantized sequential signals to form a part of an address to a memory, the address and memory being used in the determining.

5. (original) The method according to claim 4, comprising storing in the memory bit decisions representing demodulation of all possible consecutive sequences of the modulated sampled signal, the address being used to access the bit decision representing a demodulation of the consecutive sequence of the modulated sampled signal.

6. (original) The method according to claim 5, comprising using output from a counter as part of the address to the memory.

7. (original) The method according to claim 1, comprising buffering consecutive phase trajectories of the modulated sampled signal.

8. (original) The method according to claim 7, comprising buffering four consecutive phase trajectories.

9. (original) The method according to claim 1, wherein the comparing comprises measuring a distance between the consecutive sequence and each valid modulated sampled signals.

10. (original) The method according to claim 9, comprising measuring the distance between the consecutive sequence and each valid modulated sampled signals by measuring the difference between phases of the consecutive sequence and each valid modulated sampled signal. 11. The method according to claim 9, comprising measuring the distance between the consecutive sequence and each valid modulated sampled signal by measuring a cosine of a phase difference between the consecutive sequence and each valid modulated sampled signal.

11. (original) The method according to claim 9, comprising measuring the distance between the consecutive sequence and each valid modulated sampled signal by measuring a cosine of a phase difference between the consecutive sequence and each valid modulated sampled signal.

12. (currently amended) A method for demodulating a modulated signal comprising:

receiving at least one modulated input waveform;

determining all possible valid modulated waveforms;

comparing the received at least one modulated input waveform with the possible valid modulated waveforms; ~~and~~

determining bit decisions representing a demodulation of the at least one modulated input waveform, each bit decision representing the valid modulated waveform closest to each received at least one modulated input waveform;

quantizing the at least one modulated input waveform to form quantized sequential signals; and

concatenating the quantized sequential signals to form a part of an address to a memory.

13. (original) The method according to claim 12, comprising receiving at least one modulated GMSK waveform.

14. (canceled)

15. (canceled)

16. (currently amended) The method according to ~~claim 15~~claim 12, comprising storing the bit decisions in the memory, the address being used to access the bit decisions representing a demodulation of the at least one modulated input waveform.

17. (currently amended) A demodulator comprising:

a quantizer, the quantizer receiving an input modulated waveform, the quantizer quantizing the input modulated waveform producing quantized data; ~~and~~

at least one memory device operatively connected to the quantizer, the at least one memory device containing bit decisions representing demodulation of the input modulated waveform, the quantized data being used to form an address to the at least one memory device; and

at least one counter operatively connected to the at least one memory device, an output from the at least one counter being used as part of the memory address to access the bit decisions.

18. (original) The demodulator according to claim 17, further comprising at least one buffer, the at least one buffer operatively connected between the quantizer and the at least one memory device, the at least one buffer forming the memory address using the quantized data and sending the memory address to the at least one memory device to obtain the bit decisions.

19. (canceled)

20. (currently amended) The demodulator according to ~~claim 17~~claim 18, wherein each at least one buffer is a shift register.

21. (original) The demodulator according to claim 17, wherein the at least one memory device is a ROM.

22. (original) The demodulator according to claim 17, wherein the at least one memory device is a RAM.

23. (original) The demodulator according to claim 17, wherein the quantizer is an angle quantizer.

24. (original) The demodulator according to claim 17, wherein the quantizer is a phase quantizer.

25. (original) A method for demodulating a signal comprising:

identifying characteristics of a modulated input waveform;

determining a finite number of values in a nominal constellation representing all possible valid values for the modulated input waveform;

determining an approximate phase constellation of valid values for the modulated input waveform based on the at least one of the location and groupings of the values for the modulated input waveform in the nominal phase constellation, wherein the number of valid values for the modulated input waveform in the approximate phase constellation is less than the number of values for the modulated input waveform in the nominal phase constellation;

determining all possible values for the modulated input waveform with noise;

comparing each possible value for the modulated input waveform with noise with the valid values for the modulated input waveform;

assigning a bit decision representing each valid value for the modulated input waveform closest to each possible value for the modulated input waveform with noise for all possible values for the modulated input waveform with noise;

storing the bit decisions in a memory device;

receiving a set number of consecutive modulated input waveforms with noise;

quantizing each received set number of consecutive modulated input waveforms with noise;

forming a memory address from bits representing each quantized set number of consecutive modulated input waveforms with noise and output from a counter; and

outputting the bit decision representing a demodulation of the set number of consecutive modulated input waveforms, the bit decision is outputted from the memory address of the memory device.